植物分类学报 33 (1): 103—104 (1995)
Acta Phytotaxonomica Sinica

小立碗藓属在中国的记录*

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PHYSCOMITRELLA (MUSCI) NEW TO CHINA

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Abstract The first Chinese specimen of *Physcomitrella* was collected in Hunan, China, in 1985, and it should be recognized as a new record of *Physcomitrella patens* subsp. *californica*. The genus is also new to China.

Key words *Physcomitrella*; *P. patens* subsp. *californica*; China

摘要 本文作者在湖南张家界采得小立碗藓属植物，经扫描电镜显示，其孢子具多数柱状疣的特征与小立碗藓加利福尼亚亚种相一致，可确定它为 *P. patens* (Hedw.) B. S. G. subsp. *californica* (Crum et Anderson) Tan。此为小立碗藓属植物在我国的首次记录。

关键词 小立碗藓属；小立碗藓加利福尼亚亚种；中国

Physcomitrella is usually known as one of the genera of Funariaceae (Fief, 1985). In the past 140 years, four species: *P. patens* (Hedw.) B. S. G., *P. readeri* (C. Muell.) Stone et Scott., *P. californica* Crum et Anderson and *P. magdalense* J. L. Sloover have been described. They occur in Europe, North America, Japan, Australia and Africa (Iwatsuki, 1956; de Sloover, 1975), but no record from China (Chen et al., 1963). Tan (1978, 1979) carefully reviewed the genus *Physcomitrella* by making a morphological comparison between the above four species, and merged them into a single polytypic species, *Physcomitrella patens* (Hedw.) B. S. G.

In 1985, the first author collected a very tiny moss in the rice field of the Zhang-Jia-Jie National Forest Park, Western Hunan, China. The Chinese specimen are mainly characterized by the leaves less than ten in each plant, the clearly marginal teeth and the lobed calyptras, by which it seems easily to be distinguished from *Physcomitrella patens* subsp. *patens*. Compared with the original description and the figures of *P. patens* subsp. *californica*, the

* 国家自然科学基金资助项目。
1992-10-08 收稿。

Chinese specimen is shown similar to *P. patens* subsp. *californica* in plant rarely branching and leaf narrow, but the leaf teeth of the specimen are rather clear and large and the leaf base is also narrow. Figure 1 shows a capsule with very short seta and figure 2 the distinct leaf teeth of the Chinese collection. The spore exine is of numerous baculate papillae (Fig. 3). These characters of the Chinese specimen indicate its close relationship with *P. patens* subsp. *californica* (Plate 1: 1—3). Dr. Benito C. Tan has checked the Chinese specimen and suggested that the best way is not to treat it even as a new variety. He considered that the character of the leaf teeth is within the variation of that of *P. patens* subsp. *californica* (pers. comm.). The morphological description of the Chinese specimen is as follows:

Plants very small, light green or yellowish green, scattered. Stem single, rarely forked, 0.6—1.25 mm long. Leaves 7—8, crisped when dry, erect patent when moist, 1.75—2.35 mm long, 0.65—0.92 mm wide, spathulate or ovate—lanceolate, acute, basal leaves smaller, 0.85—1.15 mm long, 0.27—0.42 mm wide, margin unbordered, often revolute, bluntly serrulate above the middle, entire below; costa ending at 2/3 of the leaves; cells hexagonal or rectangular, (36—40) × (76—96) μm, thin-walled.

Setae 0.35—0.62 mm long. Capsules sphaerical, globose-pyriform, symmetric, immersed, 0.37—0.48 mm in diameter, operculum undifferentiated, dehiscing irregularly, peristome lacking. Calyptra very small, mitrate, investing the entire capsule when young, and shallowly 4 lobed when mature. Spores subreniform, brownish, densely and baculately papillose, 16.8—19.2 μm in diameter (Plate 1: 4—5).

China: Hunan Prov., in the rice field of Zhangjiajie National Forest Park, 850 m. alt., Oct. 26, 1985, D. K. Li 18042 (PE and SHM).

Acknowledgements We are grateful to Dr. Benito C. Tan for his confirming the determination of the Chinese collection. We also thank Mr. X. J. Yan for taking the pictures under the scanning electron microscope Hitachi S-800.

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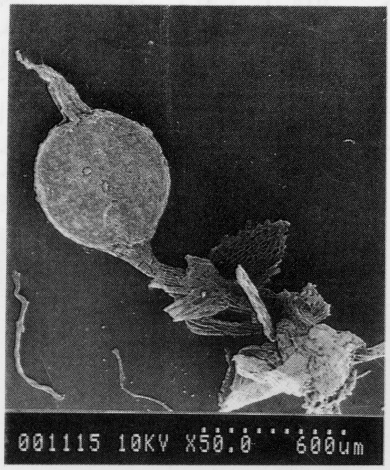
Explanation of Plate

Plate 1 *Physcomitrella patens* (Hedw.) B. S. G. subsp. *californica* (Crum et Anderson) Tan 1. plant, with most of leaves removed. ×30; 2. leaf apex, showing marginal teeth, ×240; 3. spore, with numerous baculate papillae on surface. ×2100; 4. plant, showing very short seta and capsule, ×8; 5. calyptra, ×45.



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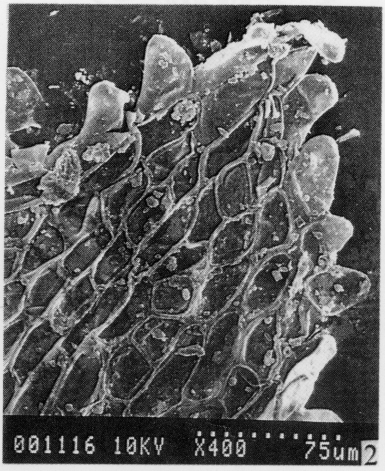

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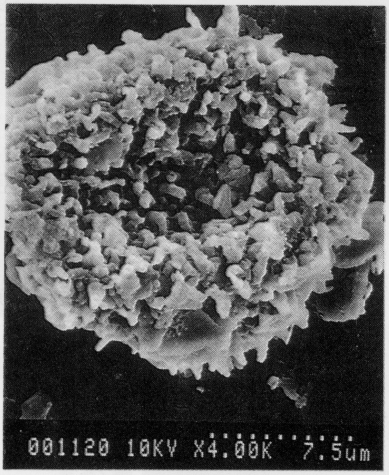

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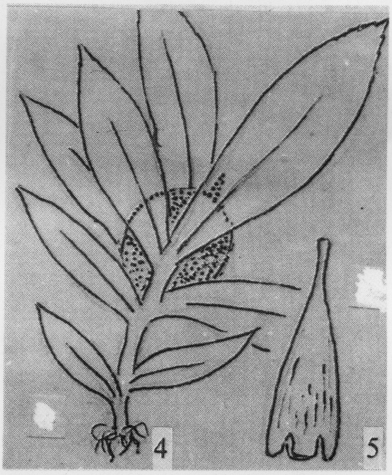

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